

## Concerning Jordan's „Notes on Siphonaptera“.<sup>1)</sup>

By Dr. Julius Wagner.

I am very thankful to Mr. Dr. K. Jordan for some of his remarks concerning my „Katalog der palaearktischen Aphanipteren“, but, as we shall see hereafter, not all his remarks can be accepted.

I do not see any reason to change the denomination Aphaniptera, which, I agree with Jordan, cannot be considered as very happy. To begin with, this name is pretty well established in the literatur (quite particularly in the German), secondly, I follow in my Catalogue the catalogue of Dalla Torre, „Aphaniptera orbis terrarum“, and, thirdly, if there can be a question about the priority (although in names of orders rules of priority are not observed very strictly), then Jordan is wrong thinking that the denomination „Aphaniptera“ appeared in the year 1826. In fact it was used at an earlier date. Kirby and Spence mention it before the apparition of the 4th volume of „An Introduction to Entomology“; Della Torre indicates the year 1822, but after my statement this name is contained already at 1818 in the 2nd volume in the explanation to the drawing of *Pulex irritans* (Tab. 5, Fig. 2 „Aphaniptera. 2. *Pulex irritans* magnified“). The name with reference to a drawing must be considered valid from the moment of its publishing (1818).

The information Jordan's about the difference between the antennae of ♂ *Arctopsylla ursi* Roths. and ♂ *A. tuberculiceps* Bezzi is very interesting and important. 1903<sup>2)</sup> I indicated also other differences between these species (in the number of stout bristles along the dorsal edge of the hind-

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<sup>1)</sup> Novitat. Zool. XXXVIII, Dec. 1932.

<sup>2)</sup> Revue Russe d'Entomol., 1903, p. 296.

tibiae and in the degree of development of bristles before the eye), but later on the study of specimens of *Arctopsylla*, which I received from Kamtchatka, aroused my doubt about the independency of the species „*ursi*“. A suitable amendment will be made in the second supplement to the „Katalog der palaearktischen Aphanipteren“. — As what concerns the diagnosis of the genus *Arctopsylla*, it was sent by me as early as 1927 for publishing in the Reports of the Russian Academy, but for causes independent from me it was not published before the apparition of my Catalogue. Therefore I quote this diagnosis in its original form at the end of this note.

The question whether the name *Ctenopsyllus* should be replaced by *Leptopsylla* remains open. I still think that 1856 (resp. 1857) Kolenati did not propose the denomination *Ctenopsyllus* instead of *Ceratopsyllus*. The quotations of Jordan do not solve the question. I substantiated my opinion in a more detailed manner by a special note<sup>1)</sup>. At this place I quote the opinion of such an authority in nomenclature as A. P. Semenov-Tian-Shanskij, Honorary Member for life of International Congresses and Honorary President of the Russian Entomological Society. In a personal letter to me of 8. IX. 1927 he writes as follows: „In the question of the name *Ceratopsyllus* Kol. 1856 I fully fall in with the opinion of Dampf. The assertion of Jordan and Rothschild (1911) is unquestionably arbitrary: it is not without cause that Kolenati put in the title of its genus *Ceratopsyllus* 1856 and 1857 and applied this denomination to this genus also thenceforth. The annotation, where for the first time he uses the denomination *Ctenopsyllus*, is but a simple **reasoning** and **not an amendment**.. That Kolenati himself did not consider the name *Ctenopsyllus* as an applied one and consequently being already occupied, can be proved by the fact, that he himself used this denomination 1863 for quite another group of fleas (subg. *Ctenopsyllus* Kol. 1863 of the genus *Ctenophthalmus*).“ I think that such controversies on which authorities differ so widely ought to be settled by a special resolution of an international congress. Only such a meeting is authorized to decide, which of the two names — *Ctenopsyllus* or *Leptopsylla* — is a nomen conservandum. Until such a special decision be voted I see no reason

<sup>1)</sup> Die Benennung *Ctenopsyllus* Kolenati. In *Końowia*, VI, 1927.

to replace an old well established name *Ctenopsyllus*, which arises no misunderstanding, by a new one, which means nothing.

The proposal of Jordan to restore the name *Trichopsylla* Kolenati (1863) to *Chaetopsylla* Kohaut (1903) and to consider *Ch. homoeus* Roths. as Genotype is unacceptable. In this regard Dampf (1926) is quite right. I quote his note<sup>1)</sup>, which Jordan does not mention, in extenso: „Amm. Jordan und Rothschild (Ectoparasites I p. 63, 1920) kommen zum Schluß, daß *Trichopsylla* Kolenati, Hor. Soc. Ent. Ross. II p. 32, 1863, synonym mit *Chaetopsylla* und *Oncopsylla* sei und dafür einzutreten habe. Sie begründen die Aenderung damit, daß Kolenati in der als Beispiel zitierten *Trichopsylla penicilliger* Grube nicht den *Ceratophyllus penicilliger* Grube vor sich gehabt hätte, sondern ein anderes Tier, *Chaetopsylla homoeus* Roths., wie die Verfasser vermuten. Ob wir das Recht haben, aus dem Irrtum Kolenati's eine Namensänderung abzuleiten, möchte ich bezweifeln. Eine Sendung bleibt juristisch an den Adressaten gerichtet, auch wenn ein Unbefugter sie in Empfang nimmt, und in unserem Falle hat Kolenati die Grubesche Art gemeint und nicht das, was sich ihm unterschob. Im übrigen sind die Kolenatischen Gattungen so konfus, daß man sie füglich außer Acht lassen kann.“

As for me, I should add:

The only characteristic of the problematic genus *Trichopsylla* Kol. is the absence of ctenidia and the presence of a „brush“ of hairs at the back of the body. — As to the first characteristic, it is a stated fact, that all the 6 species which Kolenati includes into the genus *Trichopsylla* (without a note of interrogation — *Ceratophyllus penicilliger* Gr., *Archaeopsylla erinacei* Curt., *Paraceras melis* Curt. — and with a note of interrogation — *Ceratophyllus gallinae* Schr., *C. fringillae* Walk. and *C. columbae* Steph.) also possess ctenidia. If we leave unconsidered the last three species (with the note of interrogation) and the *Par. melis* (which Kolenati did not possess and about which he nevertheless says: „Wir . . . dürfen aber keinen Fehlgriß getan haben, wenn wir sie in diese Gattung einzureihen versuchten“) and further if in regard of *A. erinacei* one can

<sup>1)</sup> Dampf, Kritisches Verzeichnis der Aphaniptera Deutschlands.

In: Entomolog. Mitteilungen XV, 1926, p. 379.

think, as it does Jordan, that Kolenati „overlooked“ the ctenidium, — how should be explained the error of Kolenati regarding the *Cerat. penicilliger* Gr.? In the diagnosis of Grube<sup>1)</sup> we read: „Prothorax ... oben am Hinterrande mit einem nach hinten gerichteten Kamm von etwa vierzehn kurzen stumpfen schwarzen horizontalliegenden Stacheln bewaffnet“, and on the drawing of Grube (Pl. XXXII) the ctenidium of the prothorax is distinctly visible. Obviously Kolenati did not throw a glance on the description or the drawings of Grube. What reasons did he have to place *C. penicilliger* Gr. as the first species of his genus, i. e. to consider it as the type of the genus? It is clear that he could base his opinion only on the one absolutely erroneous surmise, that on *Mustela* (in sensu lato) beside of two *Ctenophthalmus*-species (very dubious ones and up to date not yet elucidated — „*bisnovemdentatus*“ and „*monoctenus*“) lives only one species of fleas, which he separated into a special genus *Trichopsylla*. In fact as hosts of his *Trichopsylla penicilliger* he quotes all species of *Mustela* (in sen. lat.), from which at that time fleas were known. Among these 5 species he adds to the *sarmaticus* Pall. his own name with a note of exclamation („Kolenati!“), i. e. he indicates that he had his „*penicilliger*“ from the *sarmaticus* Pall.. Yet we know that *sarmaticus* differs so sharply from other martens that now it is even separated into a particular genus (*Vormela*); therefore the possibility of existence of other as yet unknown species on *sarmaticus* is not excluded. If it be so, why should this flea, unknown to us, be *Chaetopsylla homoeus* Roths.?

Kolenati indicates another general characteristic of his genus, namely brushes of hair at the end of the body, but this stands no critique. To begin with, we find such a brush of hair on the anal segment with most of fleas, and secondly in consequence of the development of this brush *Archaeopsylla*, which Kolenati attributes to *Trichopsylla*, distinctly differs from *Chaetopsylla* and *Ceratophyllus*, even if weakly magnified; in the third place in this regard *Archaeopsylla* resembles to *Pulex*.

The latter fact leads me to the following possible surmise. *Vormela sarmatica* lives in South Russia eastwards from Dniepr and spreads pretty far into the steppes of Central Asia. It is

<sup>1)</sup> Middendorff's Sibirische Reise II, Th. 1, p. 500.

a typical marten of steppes. It is very common in the steppes of lower Wolga and North Caucasus. Just in these steppes appears *Pulex irritans* as a common parasite on the *Putorius eversmanni* Less. Ioff<sup>1)</sup> writes: „Den Grundparasiten des Iltisses (i. e. *P. eversmanni*), der 67 % aller gesammelten Flöhe ausmacht, bildet *Pulex irritans*.“ Ioff collected from 35 *Putorius eversmanni* and in 8 nests of *Putorius eversmanni* 338 fleas, among which he found 67 % of *Pulex irritans* and not a single (!) *Chaetopsylla*. The specimens from *Putorius* were a little smaller and considerably lighter in shade than the specimens from men, and in consequence of this Ioff proposed to separate them into a particular morpho „*fulvus*“. The difference is distinctly visible even when seen with the naked eye, as I could state with the specimens received from Ioff. It is possible that the same *Pulex irritans fulvus* happens to live on *Vormela* in South East Russia in the same localities where lives *Putorius eversmanni*. Could it not happen that this very flea has been called by Kolenati „*Trichopsylla penicilliger*“? The colour is nearly the same, the size also is not contradictory, since after Ioff the ♀♀ of *fulvus* measure up to 2,9 mm (after Kolenati *Trich. penicilliger* — 3 mm). Of course it is but a possible surmise. But one thing is beyond any doubt: *Vormela* is a marten of steppes, whereas *Chaetopsylla homoeus* is known up to date only from mountaneous and woody localities.

As what concerns the drawings of Kolenati, they are full of fancy; particularly the drawing of *Trichopsylla penicilliger* reminds not less of *Pulex* as of *Chaetopsylla*; such a drawing flatteringly testifies Kolenati's fancy, yet gives no possibility for scientific conclusions.

On the basis of mentioned facts and considerations I come to following conclusions:

1) The genus *Trichopsylla* Kolenati cannot be accepted untill there be found the specimen from the collection of Kolenati, which served him for the establishing of his genus.

2) As the type of genus *Chaetopsylla* ought to be acknowledged *globiceps* Tasch. (1880) as the first species of his genus cited by Kohaut (1903), and not the *homoeus* Roths. (1906).

I accept Jordan's indication concerning the name

<sup>1)</sup> Ioff, Die Flöhe der Steppeniltisse des Süd-Ostens. In: Berichte d. Mikrobiol. Staats-Inst., Rostow a/D., Lief. 8, 1929, p. 60.

„*mustelae*“. I kept thir denomination in my Catalogue for some reasons among which the most important was the fact, that Rothschild himself considered „*turbidus*“ from 1909 to 1920 as a species different from „*mustelae*“. Of course it depends on the fact that ♀ ♀ of closely connected species of Aphaniptera are often so alike that they hardly can be distinguished. Thus one must be very careful in distinguished species by females only. Mistakes are frequent. Precisely „*turbidus*“ was determined by 1 ♀ of unknown provenience. Now I had the possibility of examining the type of Rothschild, belonging to the Museum of Vienna, and I could state, that „*turbidus*“ of 1909 is identic with „*turbidus*“ of 1920. A corresponding amendment is enclosed into the second supplement to my Catalogue.

### **The original (1927) diagnosis of the genus *Arctopsylla*.**

Kopf mit einem deutlich entwickelten Höcker an der Stirn. Die zwei unteren Borsten der Hinterrandreihe unterscheiden sich nicht oder nur schwach von den übrigen. Labiale Taster 7—10gliedrig. Der Rüssel reicht entweder nicht bis an den Gipfel der Trochanter oder überragt den letzteren nur wenig; er ist auch nicht sehr verlängert. Die mittleren Hüften haben an dem subapicalen Ausschnitt 2, seltener 3 Borsten. Klauen normal, scharf gekerbt beinahe ihrer ganzen Länge nach. Typus des Genus *A. tuberculaticeps* Bezzi.

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